Monday, 6/5/2006 11:01:17 AM

User:

Kim Johnston

**Process Sheet** 

Customer

: CU-DAR001 Dart Helicopters Services

Type

S.O. No. : 1/A

Job Number : 27412

**Estimate Number** 

: 10372

P.O. Number

: NA

This Issue

: 6/5/2006

. : NC

: 26248

Prsht Rev. : NIA First Issue

**Previous Run** 

Written By

Checked & Approved By

Comment

: MACHINED PARTS

**Drawing Name** : BOLT

Part Number

: D312121 : D3121 REV C2

**Drawing Number** Project Number

: N/A

Drawing Revision Material

**Due Date** 

: 6/30/2006

Each

**Additional Product** 

Job Number:



Seq. #:

**Machine Or Operation:** 

**Description:** 

1.0

M303H0500

303 HEX BAR

Comment: Qty.:

0.0417 f(s)/Unit

Total:

0.8340 f(s)

303 HEX BAR

Material: AISI 303 SS 1/2" Hex Bar

(M303H0.500)

Batch: <u>M100473</u>

MS

06/07/28

2.0

HARDINGE

HARDINGE CNC LATHE SMALL



Comment: HARDINGE CNC LATHE SMALL

1-Turn D3121-21 2-Identify as D3121-21

3-Deburr break all sharp edges 0.005" to 0.010"

30

3.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE





Comment: INSPECT PARTS AS THEY COME OFF MACHINE

4.0 QC8

SECOND CHECK

30

Comment: SECOND CHECK

PACKAGING RESOURCE #1

5.0

PACKAGING 1



Comment: PACKAGING RESOURCE #1

Identify and Stock Location:

06/08/14

## **Dart Aerospace Ltd**

W/O:		WORK ORDER CH	HANGES			· · · · · ·	
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
		Description of NC		Corrective Action Section B		Verification	Annroval	Approval	
DATE	STEP	Section A	Initial Design Mgr	Action Description  Design Mgr	Sign & Date	Section C	Approval Design Mgr	Approval QC Inspector	
	•			· 					

Part No:	PAR #:	Fault Category:	NCR:	Yes No DQA:	Date: <u>06/08</u> /15
NOTE: Date & initial all entries				QA: N/C Closed:	Date:

Date:

Monday, 6/5/2006 11:01:17 AM

User:

Kim Johnston

**Process Sheet** 

Customer: GU-DAR001 Dart Helicopters Services

**Drawing Name: BOLT** 

Job Number: 27412

Part Number: D312121

Job Number:



Seq. #:

**Machine Or Operation:** 

Description:

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21



06/08/15

Job Completion



Dart A	erospa	ce Ltd						
W/O:		· · · · · · · · · · · · · · · · · · ·	V	ORK ORDER CHANGE	S			
DATE	STEP	PRO	OCEDURE CH	IANGE	Ву	Date Qty	Approval Mfg / Design Mgr	Approval QC Inspector
		ut u						
		•						
NCR:		\	NORK OR	DER NON-CONFORMAN	ICE (NCR	)	· · · · · · · · · · · · · · · · · · ·	
			Corrective Action Section B					
DATE	STEP	Description of NC Section A	Initial Design Mgr	Action Description  Design Mgr	Sign & Date	Verification Section C	Approval Design Mgr	Approval QC inspector
					·			
	And the second s							

Part No:	PAR #:	Fault Category:	NCR:	Yes No <b>DQA</b> :	Date:
NOTE: Date & initial all entries				QA: N/C Closed:	Date:

DART AEROSPACE LTD	Work Order:	27412
Description: Bolt	Part Number:	D3121-21
Inspection Dwg: D3121 Rev: C2		Page 1 of 1

### FIRST ARTICLE INSPECTION CHECKLIST

X First Article	Prototype
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Drawing . Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.375	+/-0.010	1372				
0.050 - 0.060	N/A	1056				
0.080	+/-0.010	080				
10-32UNF3A	N/A	,056 ,080 10-32				
		18				
		·				
	***					

Measured by:	AU.	Audited by:	8	Prototype Approval:	N/A
Date:	06/08/11	Date:	06/08/51	Date:	N/A

R	Rev	Date	Change		Revised by	Approved
$\Box$	Α	04.02.27	New Issue		KJ/RF	
	В	06.03.09	Dwg Rev. updated	<b>▼</b>	KJ/JLM o	

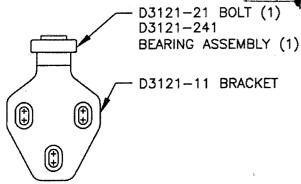




The second secon			
DESIG	"#	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHEC	KED ,,	APPROVED	DRAWING NO. REV. C
	#	#	D3121 SHEET 1 OF 10
DATE			TITLE SCALE
04.0	2.17		BRACKET ASSEMBLY 1:2
Α		02.04.15	NEW ISSUE
В		03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N

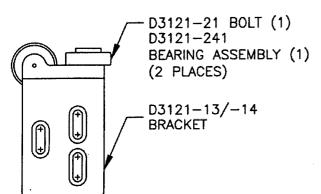
# RELEASED

DAIL		11744
04.0	2.17	BRACKET ASSEMBLY 1:2
Α	02.04.15	NEW ISSUE
В	03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146
С	04.02.17	ADD CLEARANCE; USE -241 BEARING
CI	UP 04.03.26	397 WAS 4.00; G.II WAS 6.14
CZ	JF 04.04.26	0,230 WAS 0.238



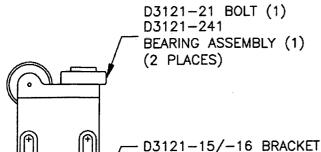
#### D3121-041 BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-33)



#### D3121-043 (SHOWN) / D3121-044 (OPPOSITE) BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-37/-38)



#### D3121-045 (SHOWN) / D3121-046 (OPPOSITE) BRACKET ASSEMBLY

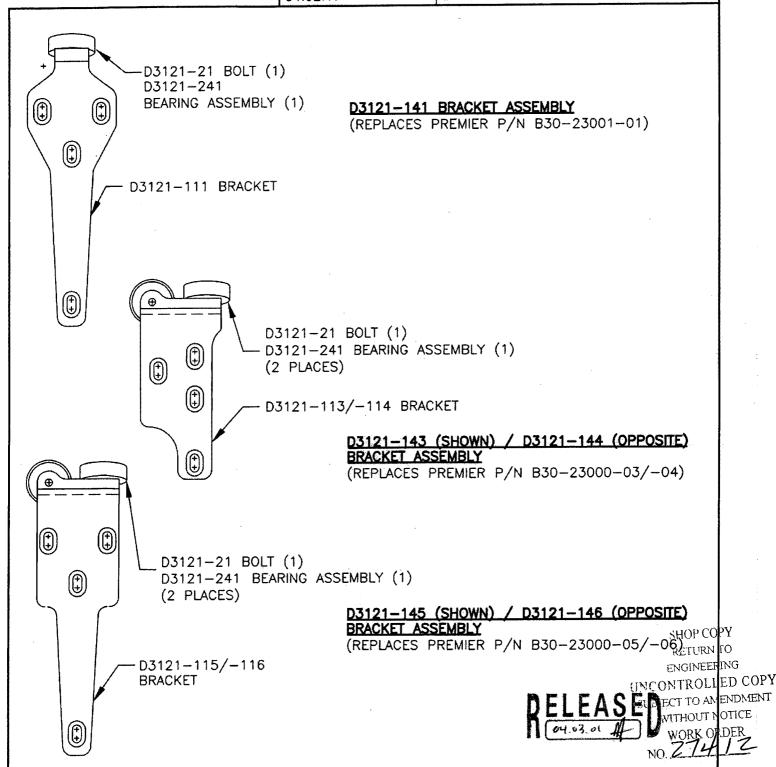
(REPLACES PREMIER P/N B30-23000 35) RETURN TO

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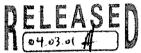
			The second secon
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1	d	D3121	SHEET 2 OF 10
DATE		TITLE	SCALE
04.02.17		BRACKET ASSEMBLY	1:2



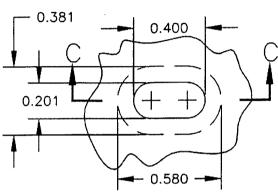


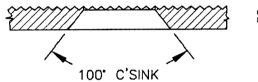


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ľ	CHECKED	APPROVED	DRAWING NO.	REV. C SHEET 3 OF 10
ŀ	DATE	1	TITLE	SCALE
l	04.02.17		BRACKET ASSEMBLY	1:1



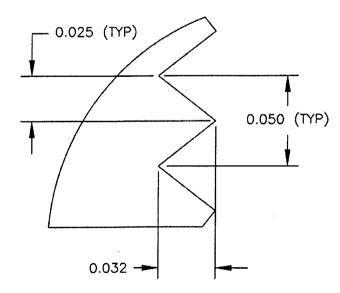
DETAIL A: SLOT DETAIL SCALE 2:1 VIEW ROTATED





**SECTION** 

# **DETAIL B:** RIDGE DETAIL PARTIAL SECTION **SCALE 1:20**

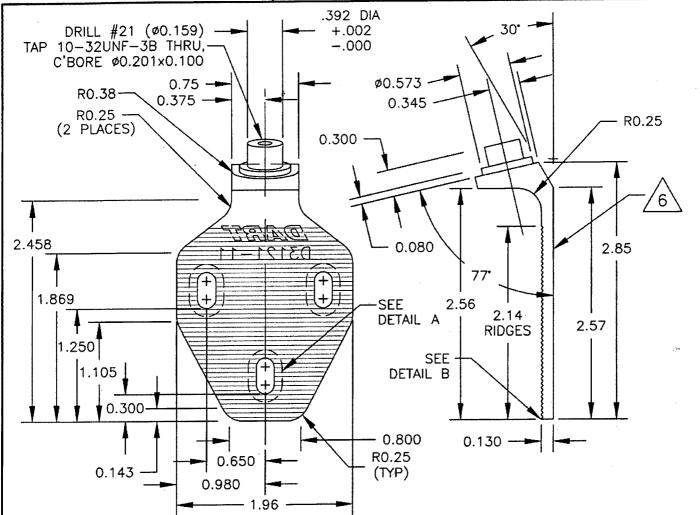


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DATE	<u> </u>	TITLE	SCALE
04.02.17		BRACKET ASSEMBLY	1:1



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WORK ORDER

#### D3121-11 BRACKET

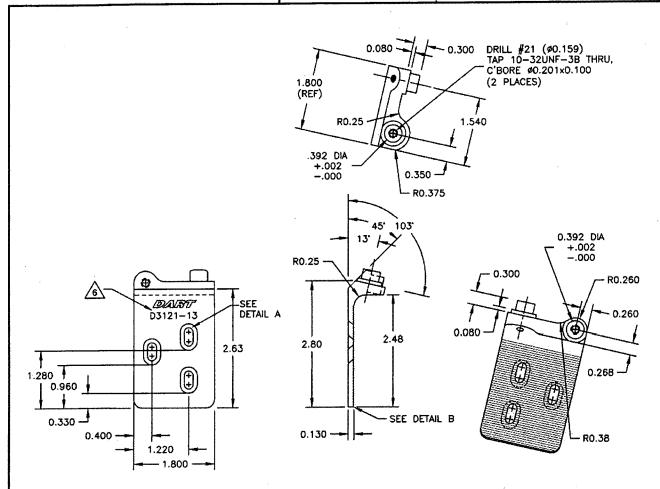
- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE = 150 ksi
  - MIN YIELD TENSILE = 100 ksi
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- ALL DIMENSIONS ARE IN INCHES
- BREAK ALL SHARP EDGES 0.005 TO 0.015 4)
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005







		DART AEROSF HAWKESBURY, ONTAR		
CHECKED	APPROVED	DRAWING NO.	REV. C	
A	#	D3121	SHEET 5 OF 10	
DATE		TITLE	SCALE	
04.02.18		BRACKET ASSEMBLY	1:2	



D3121-13 BRACKET (SHOWN) D3121-14 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE STRENGTH = 150 ksi

MIN YIELD TENSILE STRENGTH = 100 ksi

- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

SHOP COPY RETURN TO **ENGINEERING** 

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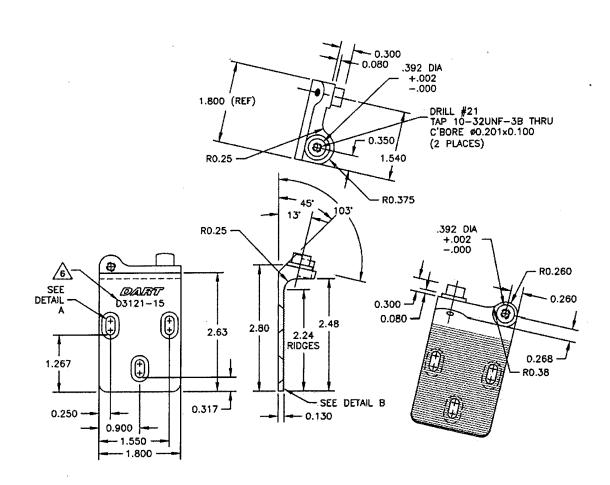
SUBJECT TO AMENDMEN WITHOUT NOTICE







DESIGN DRAWN BY DART AEROSPAC HAWKESBURY, ONTARIO, CO				
	CHECKED #	APPROVED	DRAWING NO.	REV. C
	#	1 #	D3121	SHEET 6 OF 10
	DATE		TITLE	SCALE
	04.02.18		BRACKET ASSEMBLY	1:2



D3121-15 BRACKET (SHOWN) D3121-16 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE = 150 ksi

MIN YIELD TENSILE = 100 ksi TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

ALL DIMENSIONS ARE IN INCHES

BREAK ALL SHARP EDGES 0.005 TO 0.015

5) ENGRAVE DART P/N AND LOGO AS SHOWN

6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

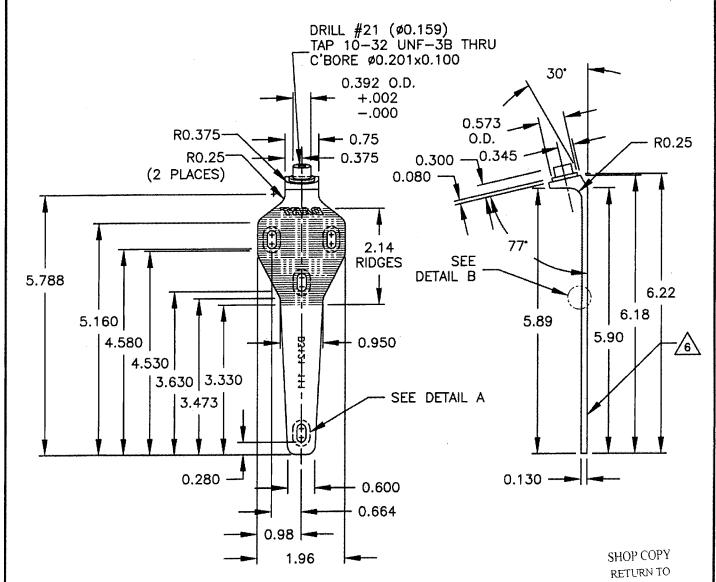
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d		D3121	SHEET 7 OF 10
DATE		TITLE	SCALE
04.02.18		BRACKET ASSEMBLY	1:2



D3121-111 BRACKET

1) REPLACES PREMIER P/N B32-23001-11

2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE = 150 ksi

MIN YIELD TENSILE = 100 ksi

3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHEWISE NOTED

4) ALL DIMENSIONS ARE IN INCHES

5) BREAK ALL SHARP EDGES 0.005 TO 0.015

ENGRAVE DART P/N & LOGO IN AREAS SHOWN HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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SUBJECT TO AMENDMENT

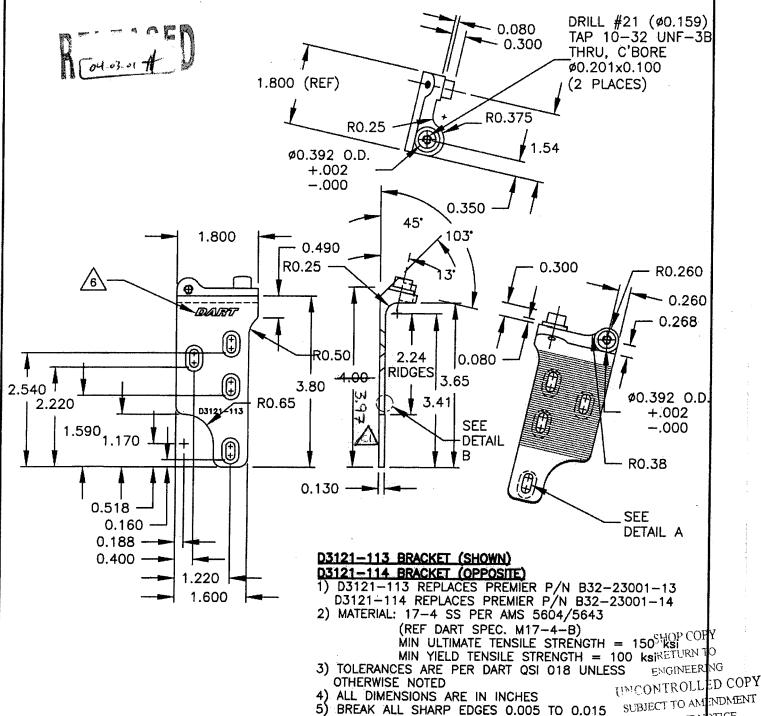
WITHOUT NOTICE







)	DESIGN #	DRAWN BY	DART AEROSPACE L HAWKESBURY, ONTARIO, CANADA	
	CHECKED	APPROVED.	DRAWING NO. D3121	REV. C SHEET 8 OF 10
	DATE		TITLE	SCALE
·	04.02.18		BRACKET ASSEMBLY	1:2



5) BREAK ALL SHARP EDGES 0.005 TO 0.015

6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN WITHOUT NOTICE

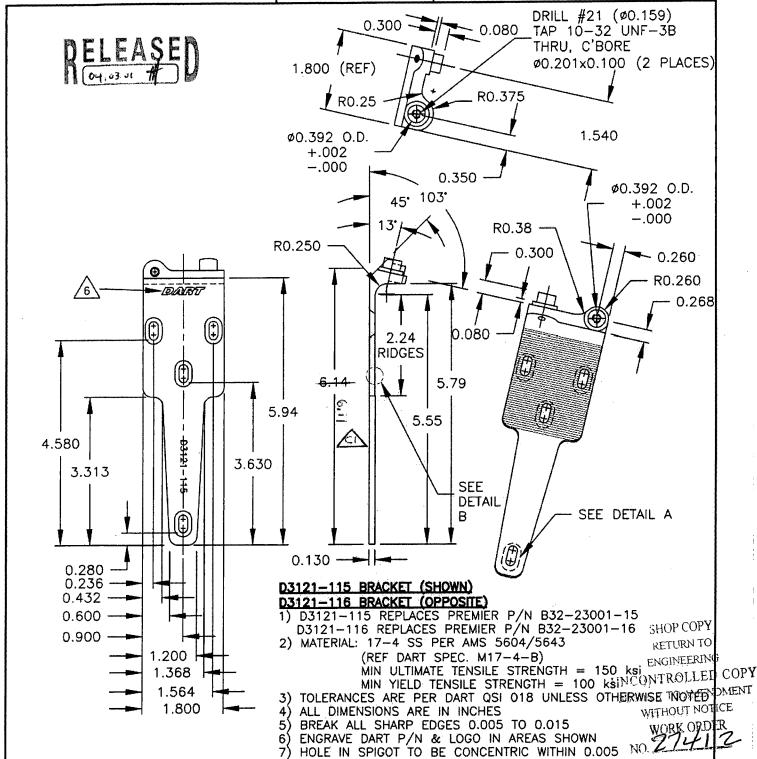
7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005WORK OF

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DATE	1 4	TITLE	SCALE
04.02.18		BRACKET ASSEMBLY	1:2

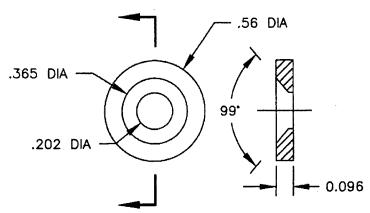


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	1 1	D3121	SHEET 10 OF 10
DATE		TITLE	SCALE
04.02.17		BRACKET ASSEMBLY	1:1.



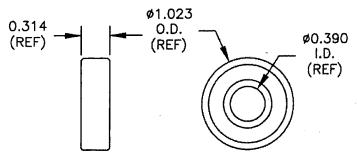
D3121-17 WASHER (SCALE 2:1)

1) REPLACES PREMIER P/N B32-23001-17 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)

3) TOLERANCÈS ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

ALL DIMENSIONS ARE IN INCHES

5) BREAK ALL SHARP EDGES 0.005 TO 0.015



D3121-19 BEARING (SCALE 1:1)

1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM FAFNIR P/N 9100KDD

2) ALL DIMENSIONS ARE IN INCHÉS



D3121-23 BEARING (SCALE

1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z OR KML P/N 6900-ZZ

2) ALL DIMENSIONS ARE IN INCHES

ELEASE

BEARING

0.375 -TAP 10-32 UNF-3A 0.080 - 0.050 TO 0.060

D3121-21 BOLT (SCALE 1:1)

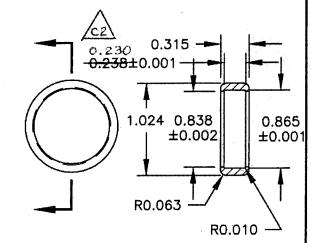
1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)

FINISH: NONE

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

4) ALL DIMENSIONS ARE IN INCHES

5) BREAK ALL SHARP EDGES 0.005 TO 0.015



D3121-25 CAP (SCALE 1:1)

1) MATERIAL: DELRIN ROD, Ø1.25

(REF DART SPEC. M-DELRIN-R1.250)

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

3) ALL DIMENSIONS ARE IN INCHES

KETURN TO ENGINEERING D3121G-025 ROLLED COPY

CAP SUBJECT TO A JENDMENT WITHOUT NOTICE WORKSPIER

D3121-23

D3121-241 BEARING ASSEBLY (SCALE 1:1)